

## ABSTRACT OF THE DISCLOSURE

Several MEMS-based methods and architectures which utilize  
5 vibrating micromechanical resonators in circuits to implement filtering, mixing,  
frequency reference and amplifying functions are provided. Apparatus is provided  
for filtering signals utilizing vibrating micromechanical resonators. One of the  
primary benefits of the use of such architectures is a savings in power consumption  
by trading power for high selectivity (*i.e.*, high Q). Consequently, the present  
10 invention relies on the use of a large number of micromechanical links in SSI  
networks to implement signal processing functions with basically zero DC power  
consumption.